

SYNOPTIC REVIEW OF THE KNOWN SPECIES OF CRYPTOGLOSSA SOLIER, WITH DESCRIPTION OF A NEW SUBSPECIES

(Coleoptera: Tenebrionidae)

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The species under consideration, inhabit the arid areas of the Sonoran Region of the south-western United States, northern Mexico and Lower California. They are as follows:

Genus CRYPTOGLOSSA Solier

Asbolus LeConte, 1851, *Annals Lyc.*, N. Y., p. 129.

Cryptoglossa Solier, 1836, *Soc. Ent. Fr.*, 5, p. 680; Lacordaire, 1859, *Genera Coleopt.*, 5, p. 135; Horn, 1870, *Revis. Tenebr.*, *Amer. Philos. Soc.*, 14, p. 278 and 280; LeConte and Horn, 1883, *Class. Coleopt. N. Amer.* (Smiths. Miscel. Coll. 507), p. 368.

Head large and deflexed, epistomal apex scarcely truncate to feebly arcuate. Mentum large and rounded, apex slightly emarginate at middle; buccal fissure wide, palpi not dilated. Antennae strongly compressed, eleventh segment short and transverse, slightly received into the tenth. Prosternum produced posteriorly, broad and rounded at apex. Legs stout, tarsi clothed with long ferruginous setae beneath; first segment of the posterior tarsi longest.

CRYPTOGLOSSA BICOSTATA SOLIER

Zopherus bicostatus Solier, Dupont collection (Pl. 24, figs. 11-13).

Cryptoglossa bicostata Solier, 1836, *Ann. Soc. Ent. Fr.*, 5, p. 681, t. 24, f. 11-13; *Cast. Hist. Nat.* II, 1840, p. 191.

A Mexican species described from a unique specimen, resembling the common Sonoran species (*verrucosa* Lec.) in form and tuberculate elytra, except that the fifth interval of each elytron is convex, more or less prominent and costate from the elytral base to about posterior third of the length (fig. 13), and there changing to tubercles. In the type and only known specimen, the distal segments of both antennae are missing, the character of the eleventh or terminal segment being unknown. This fact leaves the correctness of the determination open to doubt.

In *Cryptoglossa* the eleventh antennal segment is short, transverse and more or less sunken into the tenth segment.

The author considers it absolutely necessary to present facts and to leave the final decision to future students, when other specimens shall have been collected.

Habitat. Mexico. Type a unique, length 27 mm.; width 11 mm.

CRYPTOGLOSSA VERRUCOSA LECONTE

Cryptoglossa verrucosa LeConte, 1851, Ann. Lyc. Nat. Hist., N. Y., 5, p. 129; Lacordaire, 1859, Genera des Coleopt., 5, 1st. pt., p. 138; Horn, 1870, Revis. Tenebr., Trans. Amer. Philos. Soc., 14: p. 280; Blaisdell, 1943, Proc. Calif. Acad. Sci., (4), 24, p. 223, pl. 11, figs. 10 and 17.

A common and moderately large, black, opaque and more or less pruinose species. Pronotum narrower posteriorly than at apex, the latter arcuate and sinuate within the rather large and distinct angles; sides arcuate anteriorly, moderately convergent posteriorly before the basal angles, the latter distinct, scarcely prominent; base truncate to feebly emarginate. Disk extremely and densely, finely granulate, strongly convex, especially anteriorly; impressions well marked, more or less finely canaliculate on the median line, sublateral strong; base transversely impressed.

Scutellum short, triangular and not entering between the elytra. Elytral base applied to the pronotal base; sides arcuate, surface declivous apically, apex subacute. Each elytron has nine series of rather large subarcuate tubercles, the latter obsolete before the apex; surface viewed vertically the tubercles appear irregular and not serial, viewed obliquely and longitudinally from behind they appear in distinct series; more or less variable in size, showing a tendency to become slightly longer than wide at base, toward elytral base they may become smaller, laterally they become rather subacute and the inner or discal appear obliquely elongate to almost subcarinate and most prominent at their apex. The first or sutural interval plane, slightly irregular on surface with scattered very small points.

Measurements: Length 19-20 mm., width 8-10 mm.

Males: Usually smaller and narrower, abdomen moderately convex.

Females: Larger, wider and rather more robust, abdomen more convex.

Type locality: "In desertis fluminis Colorado."

Distribution: CALIFORNIA. San Diego County, May 15, 1911 (E. L. Ricksecker); Mohave and Colorado Deserts (H. C. Fall); Imperial County: La Puerta, August 12; Coachella, May 7, 1917; Salton Sea, April 19, 1916; Indio, March 29, 1924 (L. S. Slevin);

Los Angeles County (Albert Koebele); San Bernardino County: Needles, March 16, 1922 (J. A. Kusche); Barstow, April 13 (J. R. Slevin); Riverside County: Blythe, Nov. 10, 1924 (F. C. Hadden); Palm Springs, May 28, 1916 (J. O. Martin); Kern County: Kings River Canyon (F. Daggett). ARIZONA. Yuma County: Papago Wells, April 16, 1912; Mohave County: Kingman; Pima County: Tucson, Nov., 1921; Santa Catalina Mts., Feb. 5, 1935; N. E. Pima County; S. Pinal County: Picacho, Nov. 10, 1938; S. Arizona. Ajo Mts., Oct. 16, 1935 (Owen Bryant). NEVADA. Charleston Mts. near Las Vegas, May 24, 1935.

Three living specimens were received by the author, April 21, 1933, from a collector in Arizona, two females and a smaller male. The author decided to keep them under observation and on a very restricted diet, rolled oats without water. A glass jar was prepared, by partly filling with sand, covered by a layer of oats.

The smaller female died about the sixth year, without any special record. The male died July, 1939, after having lived in the jar for six and one-half years. For diversion and exercise the specimens spent part of their time, clawing and digging into the oats and sand, evidently trying to develop a burrow. The larger female began to show signs of senility at about the sixth year of its confinement; this was noticeable in its diminished activity, with loss of tarsal segments and the two or three terminal segments of the antennae. For the last weeks it scarcely showed signs of life, and died July 10, 1940. During the last weeks a drop of water was placed before it on the table. It would approach the water and sip it up entirely, without any bad effects. The two specimens are preserved in the collection of the Entomological Laboratory of the California Academy of Sciences.

Cryptoglossa verrucosa carinulatus Blaisdell, new subspecies

Form as in *verrucosa* LeConte. Frons convex, very sparsely punctate, punctures small in central area, becoming larger and denser apically and laterally. Sides of head broadly and rather feebly emarginate across the position of the oblique sutures, the latter feebly evident or obsolete; epistoma truncate at apex. Mentum broadly emarginate at apex and somewhat widely margined, surface moderately convex, not sharply nor densely punctate, impunctate at base; gula transversely rugose.

Pronotal disk very densely and finely granulate, a feebly and

slightly impressed median line is present, other impressions quite feeble, except a distinct basal sulcus which does not attain the sides. Prothoracic sides slightly irregular, impunctate or very feebly subpunctate, especially anteriorly. Prosternal process broadly margined at apex, surface impunctate or irregularly punctate with intervals rather wide.

Elytral intervals in the central area carinulate, each carinula not strong, each divided into carinules by fine transverse fissures, each represents a modified tubercle, which can be seen in specimens of *verrucosa* as subcarinal tubercles; these at the beginning of the lateral declivity gradually develop into verrucae, which at first are oblique and angulate posteriorly to form the usual obtuse prominences; sutural intervals plane, finely and sparsely granulate; striae of punctures not distinct; tubercles not sharply defined and broader at base, irregularly involving the intervals.

Sternal and parasternal punctures large, well separated and not sharply defined. Abdominal punctures moderate in size, and sparseness, larger and denser laterally especially on first segment; fifth segment with denser and smaller punctures.

Male. Usually smaller and narrower, elytra less arcuate at the sides.

Female: Broader and subovate, elytra more arcuate at the sides.

Holotype male (No. 5408), and *allotype* (No. 5409), Mus. Calif. Acad. Sci. Ent., collected by J. R. Slevin, two miles west of Stovepipe Wells, Death Valley, Inyo County, California, May 15, 1931. *Paratypes*, sixteen, from Furnace Creek, Death Valley, California, collected April 3, 1939, by K. S. Hagen. Albert Koebele secured specimens in Death Valley, April, 1891. J. R. Slevin obtained the species in Panamint Valley, April 29, and also at Balarat, Inyo County, May 13, 1931.

CRYPTOGLOSSA LAEVIS LECONTE

Asbolus laevis LeConte, Annals Lyc., N. Y., V, 1851, p. 130.

Cryptoglossa laevis LeConte, Revis. Tenebr., Amer. Philos. Soc., XIV, 1870, p. 280.

Form similar to that of *verrucosa* Lec., smaller. Black, somewhat shining. Pronotum moderately convex, obscurely punctulate, discal impressions obsolete; base transversely impressed, without marginal bead; lateral marginal bead very fine. Elytra about twice as long as the pronotum, base transverse and slightly wider than the pronotal base; arcuately and rather abruptly declivous at apex; surface obscurely and finely punctulate laterally. Horn states that *laevis* is smooth and shining, elytra entirely so. Eight specimens studied.

Measurements: length 15-20 mm., width 8-10 mm.

Type in the LeConte collection, "long. 65."

Distribution: CALIFORNIA: Gray's Well, Colorado Desert, Imperial County, Dec. 3, 1927; Westmoreland, Imperial County, May 6, 1933 (E. C. Van Dyke). ARIZONA: Yuma, May, 1905 (Brown Coll.); May 12, 1912 (J. R. Slevin).

CRYPTOGLOSSA LAEVIS SUBSIMILIS CASEY

Casey, *Memoirs on the Coleoptera*, XI, 1924, p. 308.

Similar to *laevis* in form and in the absence of sculpture, but considerably larger and rather more elongate. Color deep black, surface shining, smooth and glabrous. Antennae and legs are somewhat longer than in *laevis*. In *subsimilis* the elytra are less smooth, having more numerous feeble striiform lines and stronger punctures toward the sides.

Measurements: length 16.5-18.5 mm., width 8.5-9.0 mm.

Type in the Casey collection.

Distribution: CALIFORNIA: Gray's Well, Imperial County, July 31, 1940; June, 1911 (E. C. Van Dyke); Westmoreland, Imperial County, May, 1933. ARIZONA: Yuma, March 12, 1912 (J. R. Slevin); May, 1910.

Number of specimens studied, 8; Col. Casey had two specimens when he studied the species. There is some confusion as to which form Casey's description applies. The author considers it best to give Col. Casey the benefit of the doubt as it is merely a subspecies.

CRYPTOGLOSSA GRANULIFERA CHAMPION

Cryptoglossa granulifera Champion, *Biol. Centr.-Amer.*, Col., IV, 1, 1892; Blaisdell, *Proc. Calif. Acad. Sci.*, Vol. XII, No. 12, July 10, 1923, pp. 252-253; *Proc. Calif. Acad. Sci.* (4) Vol. XXIV, No. 7, February 4, 1943, pp. 223-224.

Color black, more or less dull to slightly shining.

Head widest before the eyes, sides more or less arcuately convergent anteriorly; epistomal sutures obliterated, apex feebly arcuate in middle two-thirds, thence obtusely continuous with the sides; frontal surface slightly convex, punctures more abundant apically, more or less impunctate centrally and toward base. Antennae compressed distally, eleventh segment short and truncate. Mentum rounded in form, closely punctate apically, more or less impunctate before the base; apex feebly emarginate and slightly impressed.

Pronotum slightly wider at base than at apex, about one-third

wider than long; disk moderately and rather evenly convex, feebly transversely impressed at base, surface finely and rather evenly punctulate; sides broadly arcuate anteriorly, becoming slightly sinuate in basal third; apical angles prominent and subacute, the basal rather prominent posteriorly but not laterally and slightly less than rectangular.

Elytra somewhat oval, about a third longer than wide; base equal to width of pronotal base, more or less abruptly and arcuately declivous in apical third; surface with series of moderately small and unimpressed punctures, which become obsolete on the smooth apical declivity, each interval with a series of distantly placed granular elevations, becoming slightly coarser toward the sides, absent apically.

Under surface of body opaque and almost impunctate. Prosternum broadly and horizontally produced between the procoxae, broadly rounded at apex. Mesosternum sharply raised on either side, and excavated at middle for reception of the apex of the intercoxal process.

Measurements: length 18-20 mm., width 8-10 mm.

Type locality: Villa Lerdo in Durango, Mexico (Doge.).

Five specimens studied. Allied to *C. mexicana* Champion and *C. laevis* LeConte, differing from both in having a row of distantly placed granular elevations on each of the elytral intervals, the sutural interval smooth and plane. The elytral sculpture is variable, but the granular elevations are always distinct, becoming a little coarser toward the sides.

DISTRIBUTION: Gulf of California: Mejia Island, April 30, 1921; Isle Partida, May 3, and June 26, 1921 (Virgil Owen Coll.). Mexico: Sierra de los Burros, Coahuila, June 18, 1938 (Rollin H. Baker). California: Borrego Canyon, San Diego County, March 22, 1930. Texas: El Paso, June, 1884, and San Antonio.

CRYPTOGLOSSA ANGULARIS HORN

Centrioptera angularis Horn, Proc. Calif. Acad. Sci. (2), Vol. IV, 1894, pp. 414-415, pl. VII, Fig. 4; Blaisdell, Proc. Calif. Acad. Sci. (4), Vol. XXIV, No. 7, February 4, 1943, pp. 223.

From all of the known species *angularis* differs in having the hind angles of the pronotum distinctly everted and the lateral margin in front of them slightly reflexed.

Head similar to that of *granulifera* Champion, but with the frontal margin more evenly arcuate from side to side. Pronotum trapezoidal, broader than long; apical angles acutely prominent anteriorly; sides arcuate, sinuate behind the middle; basal angles acute and moderately everted; disk moderately convex, slightly

impressed along the base, surface very finely and sparsely punctate. Prothorax beneath slightly rugose.

Elytra oval, disk slightly convex to plane, becoming arcuately to somewhat abruptly declivous laterally, obliquely so apically; surface subsulcate, with small distinct murications along the striae, intervals more or less convex, more evidently and coarsely muricate laterally, apical declivity smooth before the apex.

Abdomen very sparsely punctate. Metasternum with few coarse punctures. Legs densely and coarsely punctate.

Measurements: length 20-38 mm., width 10-11.5 mm.

Type (No. 109), Museum of the California Academy of Sciences; collected at El Paraiso, Lower California.

Distribution: LOWER CALIFORNIA: Las Paz, July 3, 1919, and Santiago, July 22, 1919 (J. R. Slevin); Catavina, June 19, 1938 (Michelbacher and Ross).

The head is missing in the type. Three specimens at hand show that the eleventh antennal segment is short and transverse, and therefore not a member of the genus *Centrioptera* Mann.

CRYPTOGLOSSA MEXICANA CHAMPION

Cryptoglossa mexicana Champion, 1884, Biol. Centr.-Amer., Vol. IV, Pt. 1, p. 73, Tab. III, fig. 21.

Opaque, black. Head with a few fine scattered punctures along the anterior margin; mentum coarsely and rather closely punctate.

Pronotum moderately convex, widened toward the front; apical angles very prominent and triangular; basal angles a little produced, impunctate. Elytra a little broader than the pronotum at base moderately convex, with rows of shallow rounded impressions which become obsolete behind the middle, a few scattered raised points at base.

Measurements: length 17-19 mm.

Habitat. Monclova in Coahuila, Mexico.

Champion stated that he had six specimens when he described the species and according to him it is near *laevis* LeConte: opaque, broader and less convex; thorax broader, wider in front, flatter and less convex, apical angles more produced. Elytra less convex, broader at the base and less rounded at the sides, and with rows of shallow punctures toward base.